

**Response Under 37 CFR 1.116  
Expedited Procedure  
Examining Group 1700  
Application No. 09/783,441  
Paper Dated September 7, 2004  
Attorney Docket No. 128346.32311**

### REMARKS

Applicant has thoroughly reviewed the outstanding Office Action, including the Examiner's remarks and the references cited therein. The amendments are believed to render the claims at issue patentable. Claims 1, 6, 8-9, 13, 16-18, 20-21, 25-28, and 34-42 are pending in the present application.

In the Office Action, the Examiner has objected to claims 5, 6, 31 and 32. Thus, these claims would have been allowed if written in independent form. Therefore, the limitations of claim 5 has been incorporated into independent claim 1. The limitations of claim 31 have been incorporated into independent claim 28. Finally, the same limitations as seen in claim 5 and 31 have been incorporated into independent claim 26. Claims 5 and 31 have been cancelled accordingly. Also, claims that recite dopants other than the ones currently recited in amended claims 1, 26, and 28 have been cancelled.

All the claims now recite the limitation wherein the diamond crystal comprises at least one dopant element selected from the group consisting of boron, aluminum, and combinations thereof, wherein nitrogen is dissolved in the crystal, and wherein the concentration of nitrogen exceeds the total concentration of dopant elements.

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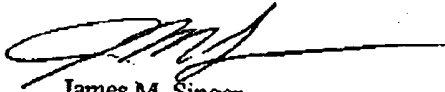
**CONCLUSION**

In light of the above amendments and remarks, Applicants respectfully submit that all pending claims as currently presented are in condition for allowance. Applicants respectfully request the Examiner to pass the case to issue at his earliest convenience.

Applicant does not believe that a fee is required. In the event that an additional fee is required for this response, the Commissioner is hereby authorized to charge such fees to Deposit Account No. 50-0436.

Should the Examiner have any questions or comments, or need any additional information from Applicant's attorney, he is invited to contact the undersigned at his convenience.

Respectfully submitted,  
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